

## ABSTRACT

The present invention provides zinc-free glass frits that can be used to formulate glaze compositions that develop glossy surfaces when fired on ceramic products such as floor tile and wall tile. The zinc-free glass frits include, by weight, from about 50% to about 70% SiO<sub>2</sub>, from about 5% to about 20% CaO, from about 3% to about 15% Al<sub>2</sub>O<sub>3</sub>, up to about 20% BaO, up to about 15% B<sub>2</sub>O<sub>3</sub>, up to about 10% K<sub>2</sub>O, up to about 10% Na<sub>2</sub>O, up to about 10% ZrO<sub>2</sub>, up to about 5% MgO and up to about 5% PbO and less than 0.5% ZnO. Glaze compositions comprising the zinc-free glass frits can be fired using conventional double fast firing, single fast firing, and *gres porcellanato* ceramic firing cycles.